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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,744	12/29/2003	Ching-Hung Wu	250122-1130	6136

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EXAMINER

CHEN, WEN YING PATTY

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/747,744

Applicant(s)

WU ET AL.

Examiner

W. Patty Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-8 and 13-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8 and 13-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on Mar. 9, 2006 has been entered.

### ***Response to Amendment***

Applicant's Amendment filed Mar. 9, 2006 has been received and entered. Claims 2 and 9-12 are cancelled and claims 13-19 are newly added per the Amendment filed. Therefore, claims 1, 3-8 and 13-19 are now pending in the present application.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 6-8, 13-14 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 5929949) in view of Jun et al. (US 5844641) further in view of Okuda et al. (US 2002/0063823).

With respect to claims 1 (Amended) and 13 (New): Park discloses in Figures 11c and 5 a liquid crystal display device and the method of fabricating the same, comprising:

- a substrate (element 100);
- a plurality of transversely extending gate lines (element 10) on the substrate;
- a first insulating layer (element 200) on the substrate and the gate lines;
- a plurality of longitudinally extending data lines (element 20) and a plurality of metallic light shield layers (elements 41 and 42; Column 3, lines 8-9) on part of the first insulating layer without contacting source/drain electrode, wherein the metallic light shield layers are located on

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both sides of the data line (Column 7, lines 16-18; wherein the metallic light shield layers are formed while forming the data lines);

a second insulating layer (element 300) on the metallic light shield layers and the data lines;

one or more contact holes (elements C1, C2, C3, C4) penetrating the second insulating layer; and

forming transparent conductive layers (element 50) on part of the second insulating layer.

Park fails to disclose that conductive plugs are formed in the contact holes, which penetrate the second insulating layer.

However, Jun et al. disclose in Figure 4 of forming conductive plugs (elements 22a, 22b) in the contact holes for electrically connecting pixel electrodes to the light shielding layers.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct a liquid crystal display device as taught by Park wherein conductive plugs are formed penetrating the second insulating layer as taught by Jun et al., since Jun et al. teach that the light shield layer receives a driving voltage from the pixel electrode via the conductive plugs and maintains the light shield layer at the same voltage as the pixel electrode so as to prevent reverse tilt phenomenon (Column 5, lines 47-65) and Okuda et al. further teach that by using conductive plugs for connecting two conductive wiring layers helps to maintain a good flatness of the wiring layer (Paragraph 0060).

As to claims 3 (Amended) and 14 (New): Park discloses all of the limitations set forth in the previous claims, but fails to specifically disclose that the transparent substrate is made of glass.

However, Jun et al. further disclose in Column 7 lines 19-24 the use of glass substrate.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to fabricate an LCD device as taught by Park wherein the substrate is made of glass as taught by Jun et al., since glass substrates have high transmissibility and good heat resistivity.

As to claims 6 (Amended) and 17 (New): Jun et al. further disclose in Column 5 lines 56-61 that the metallic light shield layers are formed of aluminum or molybdenum and Park further discloses in Column 7 lines 16-18 that the metallic light shield layers are formed while forming the data lines, therefore the data lines are also formed of aluminum or molybdenum.

As to claim 7 (Amended) and 18 (New): Park further discloses in Column 6 lines 28-29 that the transparent conductive layers are ITO (indium tin oxide) layers.

As to claim 8 (Amended) and 19 (New): Park further discloses in Column 8 lines 39-41 that the metallic light shield layers and the transparent conductive layers are equipotential.

Claims 4-5 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park (US 5929949), Jun et al. (US 5844641) and Okuda et al. (US 2002/0063823) in view of Teramoto (US 5508532).

Park, Jun et al. and Okuda et al. disclose all of the limitations set forth in the previous claims, but fail to specifically disclose that the insulating layers are made of silicon oxide.

However, Teramoto teaches in Column 1 lines 20-21 the use of silicon oxide as insulating layers.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to fabricate an LCD device as taught by Park, Jun et al. and Okuda et al. wherein insulating layers are made of silicon oxide as taught by Teramoto, since Teramoto teaches that silicon oxide insulating layers prevents the occurrence of hysteresis between capacitance to voltage (Column 1, lines 58-64).

### ***Response to Arguments***

Applicant's arguments with respect to all claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Relevant Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cheng et al. (US 6791631); wherein light shield layer is formed on the sides of the data line and connected to a pixel electrode via conductive plugs.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. Patty Chen whose telephone number is (571)272-8444. The examiner can normally be reached on 8:00-5:00 M-F.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571)272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

W. Patty Chen  
Examiner  
Art Unit 2871

WPC  
5/16/06

  
ANDREW SCHECHTER  
PRIMARY EXAMINER